



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/559,863

03/07/2007

Hanns Jurgén Schwarzbauer

0119010-00186

7453

29177 7590 01/30/2009
BELL, BOYD & LLOYD, LLP
P.O. BOX 1135
CHICAGO, IL 60690

EXAMINER

GU, YU

ART UNIT

PAPER NUMBER

2617

MAIL DATE

DELIVERY MODE

01/30/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/559,863	Applicant(s) SCHWARZBAUER ET AL.	
	Examiner ANDY GU	Art Unit 4146	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 December 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/07/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-14 are canceled by way of preliminary amendment filed on 12/07/2005. Claims 15-28 are presented for examination. Claims 15-28 are pending.

Priority

2. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). A certified copy has been filed with the application on 12/07/2005.

Information Disclosure Statement

3. The information disclosure statements (IDS) submitted on 12/07/2005 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statements are being considered by the examiner.

Drawings

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the Signaling Transfer Point STP and its claimed features must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate

Art Unit: 4146

changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. **Claim 15, 24 and 25** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 15 recites the limitation "*the first fixed network node register*" in lines 12 and 13. There is insufficient antecedent basis for this limitation in the claim. Appreciated correction is required. For the purpose of this examination, the limitation in question is interpreted as "the first fixed network node".

Claim 24 recites the limitation "*the fixed network node*" in lines 16. There is insufficient antecedent basis for this limitation in the claim. Appreciated correction is required. For the purpose of this examination, the limitation in question is interpreted as "the fixed network switch" as in "one of the plurality of fixed network switches" recited in line 11-12.

Art Unit: 4146

Claim 25 recites the limitation "*the fixed switches*" in lines 1 and 2. There is insufficient antecedent basis for this limitation in the claim. Appreciated correction is required. For the purpose of this examination, the limitation in question is interpreted as "*the fixed network switches*".

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. **Claims 15, 17-22, 24-25, and 28** are rejected under 35 U.S.C. 102(b) as being anticipated by US 6064887 A Kallioniemi et al. (hereinafter Kallioniemi).

Regarding **claim 15**, Kallioniemi describes *a method for establishing calls in a communications network comprising a fixed network section (see at least column 5 lines 9-18) and a mobile network section (see at least column 5 lines 19-25), the method comprising:*

- *receiving a called party address in the fixed network from a calling party served by a fixed network switch (i.e. a local exchange, see at least column 9 lines 6-15);*
- *and determining if the called party address is a mobile called party address associated to a mobile called party served by the mobile section network (see at least column 9 lines 20-36);*

Art Unit: 4146

- *if the called party address is associated to mobile called party:*
 - *routing signaling messages associated with the establishment of the call to a first fixed network node (i.e. GMSC, a non-mobile network node, and interfaces with the fixed network, therefore a fixed network switch, see at least column 5 lines 26-30) capable of initiating queries to and receiving responses from a home location register of the mobile network section (see at least column 9 lines 36-47),*
 - *initiating a query from the first fixed network node to the home location register (see at least column 9 lines 48-51),*
 - *receiving a roaming number for the mobile called party by the first fixed network node register (see at least column 9 lines 53-56),*
 - *and routing the call based on the roaming number to a mobile network switch serving the mobile called party (see at least column 9 lines 56-63).*

Regarding **claim 17**, Kallioniemi discloses the limitations as shown in the rejection of **claim 15**. Kallioniemi further discloses:

- *wherein determining if the called party address is associated to a mobile called party further comprises:*
 - *querying a database (i.e. database 30f) having the mobile called party address marked as potentially ported (see at least column 9 lines 25-31),*
 - *and treating the mobile called party address as a ported called party address by routing signaling messages (i.e. queries to HLR) associated with the establishment of the call to a number portability server (i.e. a STP,*

see at least column 2 lines 33-44, column 9 lines 40-53 and column 10 lines 1-5).

Regarding **claim 18**, Kallioniemi discloses the limitations as shown in the rejection of **claim 15**, and **17**. Kallioniemi further discloses:

- *wherein the number portability server is an enhanced number portability server capable of initiating queries and receiving responses from the home location register (see at least column 2 lines 33-44, column 9 lines 40-53, column 10 lines 1-5, column 21 lines 17-22).*

Regarding **claim 19**, Kallioniemi discloses the limitations as shown in the rejection of **claim 15**, **17** and **18**. Kallioniemi further discloses:

- *wherein the enhanced number portability server is a signaling transfer point operatively connected to or comprising a number portability database (see at least column 6 lines 31-43 and column 21 lines 17-22, where Kallioniemi teaches the STPs sending queries to a NAPS).*

Regarding **claim 20**, Kallioniemi discloses the limitations as shown in the rejection of **claim 15**. Kallioniemi further discloses:

- *wherein determining if the called party address is associated to a mobile called party further comprises:*
 - *querying a database in which the mobile called party address is marked as an address requiring intelligent network handling (i.e. the called party requires number portability service, therefore an intelligent network handling, see at least column 17 lines 5-15),*

Art Unit: 4146

- *and treating the mobile called party address as an intelligent network called party address by routing signaling messages associated with the establishment of the call to an intelligent network service control point (i.e. the GMSC, see at least column 17 lines 30-35).*

Regarding **claim 21**, Kallioniemi discloses the limitations as shown in the rejection of **claim 15** and **20**. Kallioniemi further discloses:

- *wherein the intelligent network service control point (i.e. the GMSC) is capable of initiating queries to and receiving responses from the home location register of the mobile network section (see at least column 17 lines 43-48).*

Regarding **claim 22**, Kallioniemi discloses a *Signaling Transfer Point (STP) of an SS7 network, comprising:*

- *a connector for bi-directionally connecting to an SS7 link linking the STP to another SS7 (i.e. other STPs) entity (see at least Figure 5 item 521 and column 12 lines 60-65);*
- *a receiver for receiving a number portability query from a fixed network section of the network (see at least column 22 lines 17-25);*
- *and a database query for querying a number portability database for determining if a called party address received in the number portability query is associated to a mobile called party served by a mobile network section of the network (see at least column 2 lines 33-44, column 9 lines 40-53, column 10 lines 1-5, column 21 lines 17-22),*

Art Unit: 4146

- *if the called party address is associated to the mobile called party: a home location register query is initiated to a home location register associated with the mobile called party address, and a roaming number is received for the mobile called party and returned as a response to the number portability query (see at least column 9 lines 48-63).*

Regarding **claim 24**, Kallioniemi discloses *a network arrangement for a communications network, comprising:*

- *a mobile network section comprising:*
 - *a plurality of mobile subscriber terminals (see at least column 5 lines 58-60),*
 - *a plurality of mobile network switches (see at least Figure 2, item 40 and column 5 lines 30-32),*
 - *a plurality of voice connections (the mobile network switches MSCs are used to route voice connections for plurality of subscribers) for interconnecting the mobile network switches, a home location register (see at least Figure 2 item 80),*
 - *and a plurality of signaling connections for connecting the mobile network switches to at least one signaling transfer point (see at least column 10 lines 1-5);*
- *and a fixed network section comprising:*
 - *a plurality of subscriber terminals (see at least column 5 lines 9-13),*

Art Unit: 4146

- *a plurality of fixed network switches (see at least column 5 lines 10-15), at least one of the plurality of fixed network switches (i.e. GMSC, which interfaces with the fixed network, therefore a fixed network switch, see at least column 5 lines 26-30) capable of:*
 - *determining if a call originating in the fixed network section is terminating in the mobile network section (see at least column 9 lines 37-43),*
 - *routing signaling messages associated with the establishment of the call terminating in the mobile network section to the fixed network switch (i.e. the GMSC) for obtaining a roaming number for completing the call (see at least column 9 lines 52-56),*
 - *and directly routing the call to a mobile network switch currently serving a mobile called party based on the roaming number (see at least column 9 lines 56-60),*
- *a plurality of voice connections for interconnecting the fixed network switches (see at least 5 lines 9-13, where the fixed server a plurality of subscribers, therefore a plurality of voice connections),*
- *a plurality of signaling connections for connecting the fixed network switches to at least one signaling transfer point (see at least),*
- *and a fixed network node (i.e. GMSC, which interfaces with the fixed network, therefore a fixed network switch, see at least column 5 lines 26-*

Art Unit: 4146

30) *capable of initiating queries to and receiving responses from the home location register (see at least column 9 lines 47-54).*

Regarding **claim 25**, Kallioniemi discloses the limitations as shown in the rejection of **claim 24**. Kallioniemi further discloses:

- *wherein all of the plurality of fixed network switches (i.e. all the GMSC, which interface with the fixed network, as illustrated in Figure 2) are capable of:*
 - *determining if a call originating in the fixed network section is terminating in the mobile network section (see at least column 9 lines 37-43),*
 - *routing signaling messages associated with the establishment of the call terminating in the mobile network section to the fixed network node for obtaining a roaming number for completing the call (see at least column 9 lines 52-56),*
 - *and directly routing the call to a mobile network switch currently serving a mobile called party based on the roaming number (see at least column 9 lines 56-60).*

Regarding **claim 28**, Kallioniemi discloses the limitations as shown in the rejection of **claim 24** and **25**. Kallioniemi further discloses:

- *wherein determining if a call originating in the fixed network section is terminating in the mobile network section includes*
 - *a database in which a called party address associated to the called party is marked as an address requiring intelligent network handling (i.e. the*

Art Unit: 4146

called party requires number portability service, therefore an intelligent network handling, see at least column 17 lines 5-15),

- *and wherein the fixed network node is capable of initiating queries to and receiving responses from the home location register includes an intelligent network service control point capable of initiating queries to and receiving responses from the home location register (i.e. the GMSC, see at least column 17 lines 30-35).*

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claim 16, 23 and 26-27** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kallioniemi.

Regarding **claim 16**, Kallioniemi discloses the limitations as shown in the rejection of **claim 15**. Kallioniemi does not explicitly disclose the limitation *wherein determining if the called party address is associated to a mobile called party further comprises forwarding the call to a second fixed network switch when the first network switch is not configured for determining if the called party address is associated to a mobile called party*. Kallioniemi however teaches other nodes, when properly configured can be used to determine if the called party address is associated to a mobile called party (i.e. by interrogating a number portability database (see at least column 10 lines 36-44).

Art Unit: 4146

Therefore, it would have obvious to use another network node (i.e. such as a transit exchange, see at least column 5 lines 9-17, where Kallioniemi teaches a transit exchange sitting on the signal path between a local exchange and a gateway exchange) to determine if the called party address is associated to a mobile, if the local exchange is not connect to the number portability database.

Regarding **claim 23**, Kallioniemi discloses the limitations as shown in the rejection of claim **22**. Kallioniemi does not specifically disclose that the STP *comprising the number portability database*. However, it is common in the art to combine inter-related system component as one integrated component e.g. in the case of mobile switch center MSC and visiting location register (see at least Figure 2 item 40), for purposes such as saving physical space, and/or reducing communication delay. Therefore, it would have been obvious to a person of ordinary skill in the art to modify Kallioniemi to build the number portability database into the STP.

Regarding **claim 26**, Kallioniemi discloses the limitations as shown in the rejection of **claim 24** and **25**. Kallioniemi further discloses: *wherein determining if a call originating in the fixed network section is terminating in the mobile network section includes accessing a database in which a mobile called party address associated to the mobile called party is marked as potentially ported* (see at least column 9 lines 40-45), *and wherein the fixed network node is capable of initiating queries to and receiving response from the home location register* (see at least column 9 lines 47-55). Kallioniemi further discloses that STPs can be used between the GMSC and the HLR (see at least column 10 lines 1-5), and a number portability database (i.e. database 30, see at least Figure 2

Art Unit: 4146

and corresponding text). Kallioniemi is silent as to the limitation that the HLR *comprising the signaling transfer point and a number portability database*. However, it is common in the art to combine inter-related system component as one integrated component e.g. in the case of mobile switch center MSC and visiting location register (see at least Figure 2 item 40), for purposes such as saving physical space, and/or reducing communication delay. Therefore, it would have been obvious to a person of ordinary skill in the art to modify Kallioniemi to build the number portability database and the STP into the HLR. Regarding **claim 27**, Kallioniemi discloses the limitations as shown in the rejection of **claim 24, 25 and 26**. Kallioniemi further discloses *wherein the signaling transfer point comprising:*

- *a connector for bi-directionally connecting to an SS7 link linking the STP to another SS7 (i.e. other STPs) entity (see at least Figure 5 item 521 and column 12 lines 60-65),*
- *a receiver for receiving a number portability query from a fixed network section of the network (see at least column 22 lines 17-25),*
- *and a database query for querying a number portability database for determining if a called party address received in the number portability query is associated to a mobile called party served by a mobile network section of the network (see at least column 2 lines 33-44, column 9 lines 40-53, column 10 lines 1-5, column 21 lines 17-22),*
- *if the called party address is associated to the mobile called party: a home location register query is initiated to a home location register associated with the*

Art Unit: 4146

mobile called party address, and a roaming number is received for the mobile called party and returned as a response to the number portability query (see at least column 9 lines 48-63).

Conclusion

8. The following prior art made of record and not relied upon are considered pertinent to applicant's disclosure:

US **20040242243** A1 Luis, Elena Goicoechea, describes Intersystem Number Portability register and a method for supporting number portability in an Intersystem Number Portability domain wherein subscribers are ported between different wireless networks based on likely different wireless systems.

US **5832382** A Alperovich, Vladimir, describes an optimal routing of terminating calls towards roaming mobile subscribers within a telecommunications network.

US **6002759** A Kallioniemi et al., describes routing of calls through a telecommunications system to an intelligent network service having a non-geographical telephone number.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANDY GU whose telephone number is (571)270-7233.

The examiner can normally be reached on Mon-Thur 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester G KINCAID can be reached on 5712727922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 4146

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/YU (Andy) GU/
Examiner, Art Unit 2617

/George Eng/
Supervisory Patent Examiner, Art Unit 2617